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EXAMINER

BALAOING, ARIEL A

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2683

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/715,790	Applicant(s) DEEDS ET AL.	
	Examiner Ariel Balaoing	Art Unit 2683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5-12,17-21,23,25-32,37-41,43 and 45-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-12,17-21,23,25-32,37-41,43 and 45-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 11/23/2005 have been fully considered but they are not persuasive.

Regarding amended claims 1, 21, and 41, the applicant argues "LIAO teaches away from displaying the bandwidth required to transmit and receive to and from a communication system. LIAO generally discloses an application monitor that interacts with a connection manager module and tracks the bandwidth usage of currently active applications. Thus, the system disclosed by LIAO would be incapable of allowing a user to directly compare the available bandwidth to a required bandwidth via a display prior to modifying the communications via the current communications system, as the application monitor taught by LIAO is only capable of monitoring currently active applications. The system disclosed in LIAO therefore does not teach or suggest the determination and display of a bandwidth that may be required to communicate via a particular communication system." (see page 12 and 13 of the remarks); the examiner respectfully disagrees. The application monitor (114) and connection manager module (110) as shown in Figure 3 applies to the software provided within the cellular phone (paragraph 18) and not the system in general. It would be necessary to monitor the bandwidth that an application uses as shown in Figure 3 to determine the required bandwidth necessary for the device (also see paragraphs 28, 40, 67, and 68 regarding determination of required bandwidth). It can further be seen on paragraph 59 that the

mobile phone performs a query to the communication system to determine available bandwidth prior to modifying communication.

Furthermore, the applicant argues "LIAO teaches away from displaying the bandwidth required to transmit and receive to and from a communication system ... LIAO in Figure 3, shows that the connection manager is in direct communication with the user interface, while the application monitor is only in indirect communication with the user interface. Thus, the embodiment of LIAO pictured in Figure 3 would be ill-suited to directly display both the available bandwidth and the required bandwidth for communicating via the current communication system." (see page 13 of the remarks); the examiner respectfully disagrees. As with above, Figure 3 describes the software within the mobile phone and not interaction between the mobile phone and the system (paragraph 18). The user interface as described is the keyboard and display of the mobile device (see also paragraph 38, 42).

Furthermore, the applicant argues "while the application monitor is recited in LIAO as being capable of tracking the bandwidth usage of currently active application, the application monitor of LIAO is not disclosed as being capable of determining the bandwidth that might be required to transmitting and receiving signals on the current communications system prior to modifying communications therewith. Thus, the system disclosed by LIAO would be incapable of allowing a user to directly compare the available bandwidth to a required bandwidth via a display prior to modifying communications via the current communications system, as the application monitor taught by LIAO is disclosed as monitoring currently active applications." (see page 14 of

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the remarks); the examiner respectfully disagrees. As with above, paragraph 59 shows that the mobile phone performs a query to the communication system to determine available bandwidth prior to modifying communication, while the application monitor determines the required bandwidth of the applications currently needing bandwidth (paragraphs 28, 40, 67, and 68).

2. Regarding claims 17 and 37, in response to applicant's argument that there is no suggestion to combine the references (see page 17 of the remarks), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the apparatus design of WATANABE would be used within the system disclosed by LIAO (see LIAO 82 and WATANABE column 10, lines 25-30). Both inventions disclose displaying data to users on a portable communication device, therefore it would have been obvious to a person of ordinary skill in the art to modify LIAO to include the teachings of WATANABE, as it would provide a user with a better view of the display during calls.

Furthermore, the applicant argues, "WATANABE does not disclose provision of a second terminal, responsive to the controller, comprising a display for visually representing the available bandwidth. In contrast, WATANABE discloses a single terminal that includes a main body unit (1) with a slidable display (4), as well as the

receiver unit (3) and transmitter unit (6)." (see page 19 of the remarks); the examiner respectfully disagrees. WATANABE discloses an apparatus (1) comprising a main body (11b) and movable body (12b). As the terms first and second *terminal* of claim 17 and 37 can be used to describe a first and second body, as shown in WATANABE, the first and second bodies of WATANABE are within the scope of the claim. It can be seen from column 6, lines 6-23 that the movable body is not in direct contact with electrical connectors of the main body when the movable body during certain instances. Furthermore, claim 17 and 37 state that the second terminal is utilized to visually represent the bandwidth utilized by first terminal. As written, the second terminal is merely a display for the first terminal.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 6-9, 21, 26-29, 41, 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460 A1).

Regarding claim 1, LIAO discloses a terminal adapted to communicate via at least one communications system (abstract; paragraph 3, 4), wherein the terminal comprises: a transmitter and a receiver for transmitting and receiving signals (30-Figure 1), respectively, via the at least one communications system (100-Figure 2; paragraph 37); a display capable of visually representing an available bandwidth of a current communications system (40-Figure 1; paragraph 11, 47, 50); and a controller

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[processor] (24-Figure 1) capable of determining the available bandwidth of the current communications system (paragraph 11), determining the required bandwidth for transmitting and receiving signals on the current communications system prior to modifying communications therewith (paragraph 28, 40, 67, 68), and altering the appearance of the display based on a determination of the available bandwidth (paragraph 11). However, LIAO does not specifically disclose wherein the display is further capable of visually representing the required bandwidth for transmitting and receiving signals on the current communications system. LIAO discloses wherein the display is capable of displaying a determined quantity of bandwidth associated with a current communication system (paragraph 11, 25, 47). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to visually represent the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is

further capable of directing the display to visually represent the available bandwidth using a first color corresponding to the available bandwidth (paragraph 11, 25, 47, 50).

Regarding claim 8, see the rejections of the parent claims concerning the subject matter these claims are dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to visually represent the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 25) and wherein the controller is further capable of directing the display to visually represent a second bandwidth using a second icon corresponding to the second bandwidth (paragraph 11, 25). However, LIAO does not disclose wherein the second bandwidth is the required bandwidth. LIAO discloses wherein a required bandwidth calculation is made (paragraph 28, 40, 67, 68). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 9, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to visually represent the first icon in comparative relation to the second icon (paragraph 11, 25) such that the controller is further capable of directing the display to visually represent the available bandwidth in relation to the second bandwidth, respectively (paragraph 11, 25). However, LIAO does not



specifically disclose wherein the second bandwidth corresponds to a required bandwidth. LIAO discloses wherein a required bandwidth calculation is made (paragraph 28, 40, 67, 68). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 21, LIAO discloses a method of visually quantifying bandwidth on a terminal adapted to communicate via at least one communications system (abstract, paragraph 11), said method comprising: transmitting and receiving signals on at least one communications system (paragraph 37); determining an available bandwidth of a current communications system (paragraph 11, 47, 50); determining a required bandwidth for transmitting and receiving signals on the current communications system prior to modifying communications therewith (paragraph 28, 40, 67, 68); and controlling a display of the terminal to visually represent the available bandwidth of the current communications system (paragraph 11, 47, 50). However, LIAO does not specifically disclose controlling the display of the terminal to visually represent the required bandwidth for transmitting and receiving signals on the current communications system. LIAO discloses wherein the display is capable of displaying a determined quantity of bandwidth associated with a current communication system (paragraph 11, 25, 47). Therefore it would have been obvious to a person of ordinary skill in the art at

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the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 26, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises representing visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

Regarding claim 27, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises representing visually the available bandwidth using a first color corresponding to the available bandwidth (paragraph 11, 25, 47, 50).

Regarding claim 28, see the rejections of the parent claims concerning the subject matter these claims are dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises: representing visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 25); and representing visually a second bandwidth using a second icon corresponding to the second bandwidth (paragraph 11, 25). However, LIAO does not disclose wherein the second bandwidth is the required bandwidth. LIAO discloses wherein a required bandwidth calculation is made (paragraph 28, 40, 67, 68). Therefore it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 29, see the rejections of the parent claims concerning the subject matter these claims are dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises representing visually the first icon in comparative relation to the second icon (paragraph 11, 25).

Regarding claim 41, LIAO discloses a computer program product for visually quantifying bandwidth on a terminal adapted to transmit and receive signals on at least one communications system (paragraph 3, 4, 33), the computer program product comprising a computer-readable storage medium having computer-readable program code portions stored therein (paragraph 33), the computer-readable program code portions comprising: a first executable portion for determining an available bandwidth of a current communications system (abstract, paragraph 11, 47, 50); and a second executable portion for controlling a display of the terminal to visually represent the available bandwidth of the current communications system (paragraph 11, 47, 50); a third executable portion for determining a required bandwidth for transmitting and receiving signals on the current communications system prior to modifying communications therewith (paragraph 28, 40, 67, 68). However, LIAO does not expressly disclose a fourth executable portion for controlling the display of the terminal to visually represent the required bandwidth for transmitting and receiving signals on the

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current communications system. LIAO discloses wherein the display is capable of displaying a determined quantity of bandwidth associated with a current communication system (paragraph 11, 25, 47). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 46, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the second executable portion is adapted to represent visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

Regarding claim 47, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the second executable portion is adapted to represent visually the available bandwidth using a first color corresponding to the available bandwidth (paragraph 11, 25, 47, 50).

Regarding claim 48, see the rejections of the parent claims concerning the subject matter these claims are dependant upon. LIAO further discloses wherein the second executable portion is adapted to represent visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 25) and wherein the fourth executable portion is adapted to represent visually a second bandwidth using a second icon corresponding to a second bandwidth (paragraph 11,

25). However, LIAO does not disclose wherein the second bandwidth is the required bandwidth. LIAO discloses wherein a required bandwidth calculation is made (paragraph 28, 40, 67, 68). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display.

Regarding claim 49, see the rejections of the parent claims concerning the subject matter these claims are dependant upon. LIAO further discloses wherein the second and fourth executable portions are adapted to represent visually the first icon in comparative relation to the second icon (paragraph 11, 25)

5. Claims 3, 11, 23, 31, 43, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of KO et al (US 2004/0048624).

Regarding claim 3, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However, LIAO does not disclose wherein the terminal is adapted to communicate via a plurality of different communications systems, wherein the controller is further capable of determining the current communications system on which the terminal is transmitting and receiving signals, and wherein the display is further capable of visually representing the current communications system on

which the terminal is transmitting and receiving signals. KO discloses wherein the terminal adapted to communicate via a plurality of different communications systems (paragraph 51, 58), wherein the controller is further capable of determining the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58), and wherein the display is further capable of visually representing the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to communicate to different communication systems and display current communication system, as taught by KO as both systems relate to signal transmission to a portable device. This is beneficial in that it allows LIAO to be notified when roaming on a different communication system.

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to visually represent the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

Regarding claim 23, see the rejection of the parent claims concerning the subject matter this claim is dependant upon. However, LIAO does not disclose further comprising: determining a type of the current communications system on which the terminal is transmitting and receiving signals; and controlling the display of the terminal to visually represent the type of the current communications system on which the terminal is transmitting and receiving signals. KO discloses further comprising:

determining a type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58); and controlling the display of the terminal to visually represent the type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to communicate to different communication systems and display current communication system, as taught by KO as both systems relate to signal transmission to a portable device. This is beneficial in that it allows LIAO to be notified when roaming on a different communication system.

Regarding claim 31, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises representing visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

Regarding claim 43, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However, LIAO does not expressly disclose further comprising: a fifth executable portion for determining a type of the current communications system on which the terminal is transmitting and receiving signals; and a sixth executable portion for controlling the display to visually represent the type of the current communications system on which the terminal is transmitting and receiving signals. KO discloses further comprising: an executable portion for determining a type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58); and an executable portion for controlling the

display to visually represent the type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to communicate to different communication systems and display current communication system, as taught by KO as both systems relate to signal transmission to a portable device. This is beneficial in that it allows LIAO to be notified when roaming on a different communication system.

Regarding claim 51, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the second executable portion is adapted to represent visually the available bandwidth using a first icon corresponding to the available bandwidth (paragraph 11, 47, 50).

6. Claims 5, 25, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of ARSENAULT et al (US 6,501,770 B2).

Regarding claim 5, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to separately visually represent bandwidths (paragraphs 11, 25). However, LIAO does not disclose wherein the controller is capable of separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception, and wherein the controller is further capable of directing the display to separately visually represent the respective bandwidths available for signal transmission and signal reception. ARSENAULT discloses wherein the controller is capable of separately determining the bandwidth



available for signal transmission and the bandwidth available for signal reception (abstract, column 27:lines 26-43), and wherein the controller is further capable of separately representing the respective bandwidths available for signal transmission and signal reception (abstract, column 27:lines 26-43). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to separately determine transmission and reception bandwidths, as taught by ARSENAULT, as both systems deal with bandwidth optimization in an over the air communication system. This is beneficial in that it allows manual adjustment of transmission and reception rates using a visual display.

Regarding claim 25, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LIAO further discloses wherein controlling the display comprises controlling the display to separately visually represent separate bandwidths available (paragraphs 11, 25). However, LIAO does not disclose wherein determining the available bandwidth comprises separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception, and wherein controlling the display comprises controlling the display to separately visually represent the respective bandwidths available for signal transmission and signal reception. ARSENAULT discloses wherein determining the available bandwidth comprises separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception (abstract, column 27:lines 26-43), and representing the respective bandwidths available for signal transmission and signal reception (abstract, column 27:lines 26-43). Therefore it would have been obvious to a

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person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to separately determine transmission and reception bandwidths, as taught by ARSENAULT, as both systems deal with bandwidth optimization in an over the air communication system. This is beneficial in that it allows manual adjustment of transmission and reception rates using a visual display.

Regarding claim 45, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein said second executable portion is capable of controlling the display to separately visually represent the respective bandwidths available (paragraph 11, 25). However, LIAO does not disclose wherein said first executable portion is capable of separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception, and wherein said second executable portion is capable of controlling the display to separately visually represent the respective bandwidths available for signal transmission and signal reception. ARSENAULT discloses wherein said first executable portion is capable of separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception (abstract, column 27:lines 26-43), and wherein said second executable portion is capable of representing the respective bandwidths available for signal transmission and signal reception (abstract, column 27:lines 26-43). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to separately determine transmission and reception bandwidths, as taught by ARSENAULT, as both systems deal with bandwidth optimization in an over the air

communication system. This is beneficial in that it allows manual adjustment of transmission and reception rates using a visual display.

7. Claims 10, 30, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of ROSENFLED (US 2004/0071081 A1).

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to visually represent the second icon in a second color used to indicate a value of a bandwidth (paragraph 11, 25). However, LIAO does not disclose that the bandwidth is a ratio of the required bandwidth to the available bandwidth. ROSENFLED discloses calculating a ratio of the required bandwidth to the available bandwidth (paragraphs 27-30). There fore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a method of calculating a ratio of the required bandwidth to the available bandwidth, as taught by ROSENFLED, as both systems relate to bandwidth regulation. This is beneficial in that a ratio of required bandwidth to available bandwidth would provide a visual display of system load capacity.

Regarding claim 30, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein controlling the display of the terminal further comprises: calculating a ratio of the required bandwidth to the available bandwidth; and representing visually the second icon in a second color used to indicate a value of a bandwidth. However, LIAO does not disclose that the

bandwidth is a ratio of the required bandwidth to the available bandwidth. ROSENFLED discloses calculating a ratio of the required bandwidth to the available bandwidth (paragraphs 27-30). There fore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a method of calculating a ratio of the required bandwidth to the available bandwidth, as taught by ROSENFLED, as both systems relate to bandwidth regulation. This is beneficial in that a ratio of required bandwidth to available bandwidth would provide a visual display of system load capacity.

Regarding claim 50, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses further comprising a seventh executable portion for calculating a ratio of the required bandwidth to the available bandwidth, and wherein the fourth executable portion is adapted to represent visually the second icon in a second color used to indicate a bandwidth calculated by the fifth executable portion. However, LIAO does not disclose that the bandwidth is a ratio of the required bandwidth to the available bandwidth. ROSENFLED discloses calculating a ratio of the required bandwidth to the available bandwidth (paragraphs 27-30). There fore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a method of calculating a ratio of the required bandwidth to the available bandwidth, as taught by ROSENFLED, as both systems relate to bandwidth regulation. This is beneficial in that a ratio of required bandwidth to available bandwidth would provide a visual display of system load capacity.

8. Claims 12, 32, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of KO et al (US 2004/0048624) and further in view of ZANCHO (US 5,630,159).

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. KO further discloses wherein the controller is further capable of directing the display to visually represent the first icon used to indicate the type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). However, the combination of LIAO and KO does not disclose wherein the first icon is colored to distinguish communication systems. ZANCHO discloses wherein the icon is colored to distinguish communication systems (column 6:line 63-column 7:line18). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and KO to include the ability to change icon color based on communication systems, as taught by ZANCHO, as both systems relate to mobile device configuration. This is beneficial in that it allows the user the ability to configure the mobile device based on personal preferences.

Regarding claim 32, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. KO further disclose wherein controlling the display of the terminal further comprises representing visually the first icon used to indicate the type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). However, the combination of LIAO and KO do not disclose wherein the first icon is colored to distinguish communication systems.

ZANCHO discloses wherein the icon is colored to distinguish communication systems (column 6:line 63-column 7:line18). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and KO to include the ability to change icon color based on communication systems, as taught by ZANCHO, as both systems relate to mobile device configuration. This is beneficial in that it allows the user the ability to configure the mobile device based on personal preferences.

Regarding claim 52, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. KO further discloses wherein the sixth executable portion is adapted to represent visually the first icon used to indicate the type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58). However, the combination of LIAO and KO do not disclose wherein the first icon is colored to distinguish communication systems. ZANCHO discloses wherein the icon is colored to distinguish communication systems (column 6:line 63-column 7:line18). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and KO to include the ability to change icon color based on communication systems, as taught by ZANCHO, as both systems relate to mobile device configuration. This is beneficial in that it allows the user the ability to configure the mobile device based on personal preferences.

9. Claims 17, 18, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of WATANABE (US 6,233,469 B1).

Regarding claim 17, LIAO discloses a system comprising: a first terminal comprising a transmitter and a receiver for transmitting and receiving signals (30-Figure 1), respectively, via the at least one communications system (100-Figure 2; paragraph 37); a controller [processor] capable of determining the available bandwidth of the communications system utilized by said first terminal (paragraph 11, 25); and a display, responsive to said controller (40-Figure 1; paragraph 11, 47, 50), comprising a display capable of visually representing an available bandwidth of the communications system utilized by said first terminal (40-Figure 1; paragraph 11, 47, 50). However, LIAO does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of determining a required bandwidth for transmitting and receiving signals on the current communications system (paragraph 28, 40, 67, 68). However,

LIAO does not specifically disclose wherein the display is further capable of visually representing the required bandwidth for transmitting and receiving signals on the current communications system by said first terminal. LIAO discloses wherein the display is capable of displaying a determined quantity of bandwidth associated with a current communication system (paragraph 11, 25, 47). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display. However, LIAO does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

Regarding claim 37, LIAO discloses a method comprising: transmitting and receiving signals with a first terminal on the at least one communications system (paragraph 11, 25); determining an available bandwidth of the communications system utilized by the first terminal (paragraph 11, 25); and controlling a display to visually represent the available bandwidth of the communications system utilized by the first



terminal (paragraph 11, 25). However, LIAO does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

Regarding claim 38, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses further comprising: determining a required bandwidth for transmitting and receiving signals on the current communications system (paragraph 28, 40, 67, 68). However, LIAO does not specifically disclose controlling the display of the terminal to visually represent the required bandwidth for transmitting and receiving signals on the current communications system. LIAO discloses wherein the display is capable of displaying a determined quantity of bandwidth associated with a current communication system (paragraph 11, 25, 47). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to display the bandwidth determined necessary to transmit and receive signals, as LIAO also teaches calculating the bandwidth needed to transmit and receive to and from a communication system. This is beneficial in that manual adjustment of bandwidth usage can be determined by the visual display. However, LIAO does not disclose wherein the display is a separate

terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

10. Claims 19 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of KO et al (US 2004/0048624), and in further view of WATANABE (US 6,233,469 B1).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter these claim is dependant upon. However, LIAO does not disclose wherein the terminal is adapted to communicate via a plurality of different communications systems, wherein the controller is further capable of determining the current communications system on which the terminal is transmitting and receiving signals, and wherein the display is further capable of visually representing the current communications system on which the terminal is transmitting and receiving signals. KO discloses wherein the terminal adapted to communicate via a plurality of different communications systems (paragraph 51, 58), wherein the controller is further capable of determining the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58), and wherein the display is further capable of visually representing the current communications system on which the terminal is transmitting and receiving

signals (paragraph 51, 58). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to communicate to different communication systems and display current communication system, as taught by KO as both systems relate to signal transmission to a portable device. This is beneficial in that it allows LIAO to be notified when roaming on a different communication system. However, the combination of LIAO and KO does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and KO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

Regarding claim 39, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, LIAO does not disclose further comprising: determining a type of the current communications system on which the terminal is transmitting and receiving signals; and controlling the display of the terminal to visually represent the type of the current communications system on which the terminal is transmitting and receiving signals. KO discloses further comprising: determining a type of the current communications system on which the terminal is transmitting and receiving signals (paragraph 51, 58); and controlling the display of the terminal to visually represent the type of the current communications system on which

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the terminal is transmitting and receiving signals (paragraph 51, 58). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to communicate to different communication systems and display current communication system, as taught by KO as both systems relate to signal transmission to a portable device. This is beneficial in that it allows LIAO to be notified when roaming on a different communication system. However, the combination of LIAO and KO does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and KO to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

11. Claims 20 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIAO et al (US 2003/0169460) in view of ARSENAULT et al (US 6,501,770 B2), and further in view of WATANABE (US 6,233,469 B1).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. LIAO further discloses wherein the controller is further capable of directing the display to separately visually represent bandwidths (paragraphs 11, 25). However, LIAO does not disclose wherein the controller is capable of separately determining the bandwidth available for signal transmission and

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the bandwidth available for signal reception, and wherein the controller is further capable of directing the display to separately visually represent the respective bandwidths available for signal transmission and signal reception. ARSENAULT discloses wherein the controller is capable of separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception (abstract, column 27:lines 26-43), and wherein the controller is further capable of separately representing the respective bandwidths available for signal transmission and signal reception (abstract, column 27:lines 26-43). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to separately determine transmission and reception bandwidths, as taught by ARSENAULT, as both systems deal with bandwidth optimization in an over the air communication system. This is beneficial in that it allows manual adjustment of transmission and reception rates using a visual display.

However, the combination of LIAO and ARSENAULT does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and ARSENAULT to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

Regarding claim 40, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. Regarding claim 25, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LIAO further discloses wherein controlling the display comprises controlling the display to separately visually represent separate bandwidths available (paragraphs 11, 25). However, LIAO does not disclose wherein determining the available bandwidth comprises separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception, and wherein controlling the display comprises controlling the display to separately visually represent the respective bandwidths available for signal transmission and signal reception. ARSENAULT discloses wherein determining the available bandwidth comprises separately determining the bandwidth available for signal transmission and the bandwidth available for signal reception (abstract, column 27:lines 26-43), and representing the respective bandwidths available for signal transmission and signal reception (abstract, column 27:lines 26-43). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LIAO to include the ability to separately determine transmission and reception bandwidths, as taught by ARSENAULT, as both systems deal with bandwidth optimization in an over the air communication system. This is beneficial in that it allows manual adjustment of transmission and reception rates using a visual display. However, the combination of LIAO and ARSENAULT does not disclose wherein the display is a separate terminal. WATANABE discloses wherein the display is a separate terminal (4-Figure 5; column 5:line 44-column 6:line 5; column 10:lines 12-24).

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Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LIAO and ARSENAULT to include a separate display responsive to a first terminal, as taught by WATANABE, as both systems relate to mobile devices. This is beneficial in that providing a separate display allows viewing of the display while communicating on the mobile device.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 AM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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